?

**your
subject
here**

(Serving Suggestion)
How to use this Product Impact Tool Sheet
in your Design Process:

Analysis:
Take the product or service that you want
to analyse in your mind. Then, go around
the four quadrants of the tool and write
down if and how your product or service
influences the user through the described
effects (normally, products have multiple
effects).

In a second step you can determine which
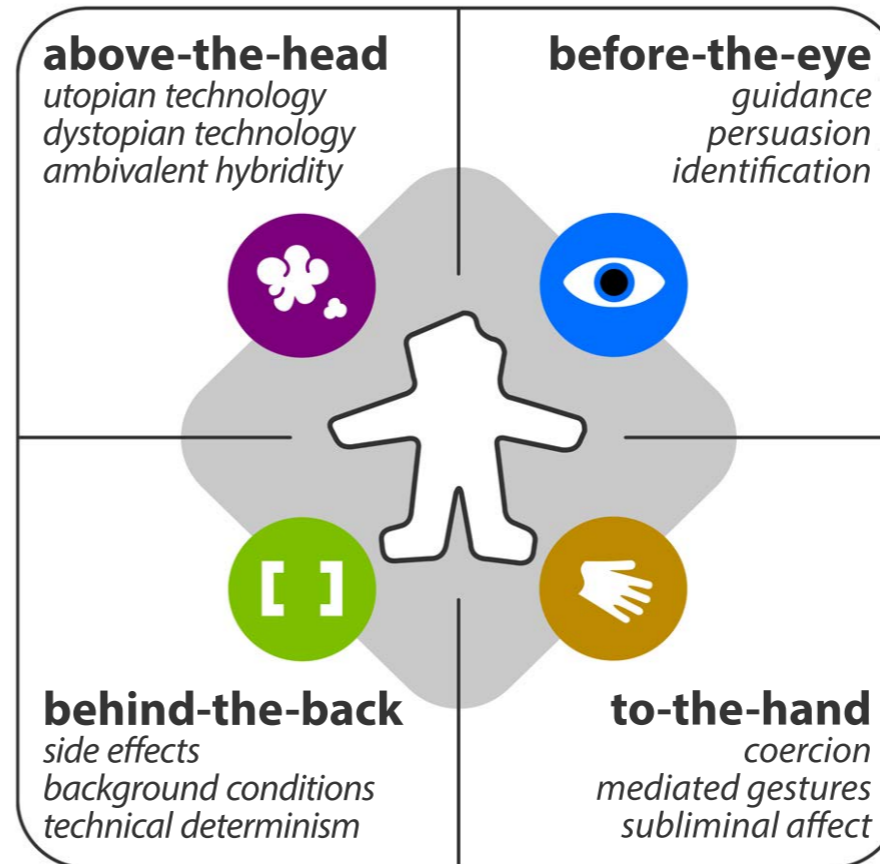effects have the most influence
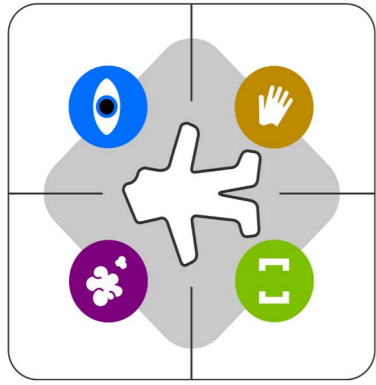
Ideation & Synthesis:
First, use your imagination to generate
many ideas.
Categorise: Take your most interesting
ideas and place them in the appropriate
quadrant.
Exaggerate: Choose one idea and try to
overdo it in its own category.
Transfer: Try to alter the idea in such a
way that its major effect is in one of the
other quadrants.

above-the-head
utopian technology
dystopian technology
ambivalent hybridity

before-the-eye
guidance
persuasion
identification

behind-the-back
side effects
background conditions
technical determinism

to-the-hand
coercion
mediated gestures
subliminal affect

Product Impact
User guiding and changing design

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Design for usability IOP-IPCR

DESIGN for USABILITY

In order to design good, useful, user-friendly products, it is important to understand user needs and characteristics. But, equally important is to see how technologies shape and transform user needs and behavioural routines. To improve usability, the focus must not just be on user needs, but also on how products guide and change people.

Examples of user guiding design

The pitched roof of the trash bins at Dutch railway stations prevents people from leaving rubbish on top of the bin, and guides them towards desired use (the cup on the roof in the picture is a trick).

If this extraordinary curve in this bicycle lane in Paris makes you smile, it may also suddenly make you aware of the great extent our everyday movements are guided and constrained by technology.

The usability of this remote control is awful. Users were even confused about which side was the front. The sticker (taken from a piece of fruit) at least solves this problem by guiding users when picking it up.

From: Dorrestijn, S & W. Eggink [2014] *Product Impact Tool Workshop; mastering affect and effect in human-product relations.* Proceedings of the 9th International Conference on Design & Emotion; Colors of Care; Bogota.

(1) Dorrestijn, S. [2012] *The Design of our own Lives:* Technical Mediation and Subjectivization after Foucault. Enschede: University of Twente (PhD thesis).

Product Impact Session

Explanation
▶ In a Product Impact Session, a product is analysed with the purpose of discovering and designing user-changing effects.

Preparatory questions
▶ Is the product necessarily encountered so that it can enforce behaviour? Or, is it a consumer product that can be easily avoided, and can rather only seduce users?
▶ Are there specific behaviour goals: usability, energy-saving, social empowerment?
▶ What are critical use actions that must be avoided or assured?

Assess and re-design
▶ Mind set: *Think the other way around!*
- Do not go from user needs to technical solutions, but from a product (or concept, prototype) to user guiding and changing effects.
▶ Use the model
- Make a round along the quadrants of the model.
- Do the interaction modes apply, and what effects can be identified?
- Consider design alternatives to better guide users.
- Try changing between cognitive and physical interaction.
- Try to improve connection to trends in the technical environment.

Results
▶ *Wrap up*
Identified effects
Design alternatives

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SAXION.

Steven Dorrestijn & Wouter Eggink
See for the interactive version:
http://productimpacttool.org

Introduction
The Product Impact Tool is the application-oriented result of the research project Product Impact on User Behavior, aiming to investigate the impact of technology on users and to make the insights applicable in the design process (1).

As part of the tool the product impact model serves to structure the exploration of user guiding and changing effects. The product impact model shows a human being, affected by technology from different sides. The model comprises a repertoire of different types of effects of technology on humans, ordered according to four different modes of interaction.

Explanation
Before-the-eye (cognitive)
The most common understanding of using technology is probably that humans employ technologies as means for reaching their goals more effectively. Technology can contribute to such goal-oriented action by supporting and directing the cognitive processes of decision-making. The first type of influence in the quadrant before-the-eye is "guidance" towards intended use. In design this effect is applied by aiming for self-evident forms and colors, by adding arrows and text, etc. The influence on human action can also be more intrusive: "persuasion" through design. In this case technology not just guides towards proper use but intends to change people's behavior, as in the case of pop-up banners on websites. In either case technology addresses the human decision making process.

To-the-hand (physical)
Technical products can also shortcut cognition and push or subtly guide the user's body and gestures. Although to have products before-the-eye may be the most common understanding, having products to-the-hand is the more basic interaction with technology. To-the-hand, or physical interaction is about holding handles, pushing buttons, the height and comfort of chairs and desks, or the hard safety measurements of locks, helmets, fences and the like.

Behind-the-back (environment)
Apart from influences that reach humans through direct contact, technology can also influence people in an indirect way. The material-technical environment and the infrastructure form a background that facilitates or directs human action and history. It is generally not possible to redesign a whole product environment, but the success or failure of the appropriation of products can be understood and influenced by addressing the environmental effects.

Above-the-head (abstract)
The interaction modes "physical", "cognitive", and "environment" are all about concrete relations between humans and technologies. This means that there are always concrete cases and examples at the base of the analysis. In the "above-the-head quadrant", in contrast, an abstract theoretical approach looks at the relations between humans and technologies in general. What is the nature, or the essence, of technology? What is the meaning of human freedom or privacy in the light of the impacts of technology? Grasping the interdependency of technology and society at this general level remains speculative; at least, opinions are very diverse and often contradictory. The philosophical views of technology vary from "utopian technology" to "dystopian technology", with "ambivalent hybridity" as the contemporary synthesis in the middle. Obviously, it is not in the power of neither designers, nor users to change how technology influences humans throughout history and on a worldwide scale. Still, these generalized understandings determine visions of technology that help to understand ethical controversies and people's attitudes to technology.